

REPORT NO. 139-STL-14-108

**SAFETY COMPLIANCE TESTING  
FOR  
FMVSS No.139**

**"New pneumatic tire for Light Passenger Vehicles"  
"Compliance Test"**

**TOYO  
A/T OPEN COUNTRY**

**Tests Conducted By:  
Standards Testing Labs**

1845 Harsh Ave., S.E.  
Massillon, Ohio 44646



**FINAL REPORT**

**April 25, 2014**

**PREPARED FOR**

**U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
1200 New Jersey Avenue SE  
West Building, 4th Floor (NVS-222)  
WASHINGTON, D.C. 20590**

## Technical Report Title Page

1. Report No. 139-STL-14-108	2. Govt. Accession No.	3. Recipient's Catalog No.:	
4. Title and Sub-Title: FINAL REPORT OF FMVSS NO. 139 MANUFACTURER: TOYO TIRE & RUBBER CO., LTD. TIRE NAME: TOYO BRAND: A/T OPEN COUNTRY TIRE SIZE LT225/75R16		5. Report Date: April 25, 2014	
		6. Performing Organization Code: STL	
7. Author: Chuck Phillips - Lab Manager		8. Performing Organization Report No.: B4S1108B , B4S1108C	
9. Performing Organization Name and Address: Standards Testing Labs 1845 Harsh Ave., S.E. Massillon, Ohio 44646		10. Work Unit No.:	
		11. Contract or Grant No.: DTNH22-10-D-00209	
12. Sponsoring Agency Name and Address: U.S. Department of Transportation National Highway Traffic Safety Administration 1200 New Jersey Avenue SE West Building, 4th Floor (NVS-222) Washington, D.C. 20590		13. Type of Report and Period Covered: September 2013 - September 2014 FINAL TEST REPORT	
		14. Sponsoring Agency Code: NVS-222	
16. Abstract:  Compliance tests under FMVSS No.139 were conducted on the subject tires to determine if the tires met the requirements of Office of Vehicle Safety Compliance Test Procedure No. TP-139-03. Test result anomalies were: None			
17. Key Words: FMVSS No. 139 Compliance Testing Safety Engineering	18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division,NPO-320 1200 New Jersey Avenue SE (Room E12-100) Washington,DC 20590 Email:tis@dot.gov Fax: 202-493-2833		
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**Report No.:** 139-STL-14-108

**Test No.:** B4S1108B , B4S1108C

**Prepared by:** Mike Weber

**Approved by:** Chuck Phillips

**Date:** April 25, 2014

**FINAL REPORT ACCEPTANCE BY OVSC:**

**Accepted By:** 

**Acceptance Date:** 05/02/2014

TEST LAB: STL

FMVSS 139

TIRE TEST REPORT - SUMMARY, LABELING TEST

TIRE NUMBER: B4S1108

	<b>MTL - 108</b>		SIZE:	<b>LT225/75R16</b>
MANUFACTURER:	<b>TOYO TIRE &amp; RUBBER CO.</b>		LOAD RANGE:	<b>E</b>
TIRE NAME:	<b>TOYO</b>		MATERIAL CARC:	<b>2P</b>
BRAND:	<b>A/T OPEN COUNTRY</b>		MATERIAL BELT:	<b>6S,P,N</b>
			MATERIAL BELT:	
MAX INFL. SINGLE PSI/KPA:	<b>80</b>	<b>550</b>	CONSTRUCTION:	<b>R</b>
MAX INFL. DUAL PSI/KPA:	<b>80</b>	<b>550</b>	SPEED RATING:	<b>Q</b>
MAX LOAD SINGLE LBS/KG:	<b>2680</b>	<b>1215</b>	SPEED RESTRICTION:	<b>0</b>
MAX LOAD DUAL LBS/KG:	<b>2470</b>	<b>1120</b>	REPLACEMENT:	

TEST CATEGORY A, B, C	TIRES	TEST RESULT P/F	REMARKS
<b>LABELING</b>	<b>A, B, C</b>	<b>N/A,PASS,PASS</b>	<b>UTQG N</b>
<b>PHYSICAL DIMENSION</b>	<b>A</b>		
<b>BEAD UNSEATING</b>	<b>A</b>		
<b>STRENGTH</b>	<b>A</b>		
<b>ENDURANCE</b>	<b>B</b>	PASS	<b>N3AKM8K1213</b>
<b>LOW INFLATION</b>	<b>B</b>	PASS	<b>N3AKM8K1213</b>
<b>HIGH SPEED</b>	<b>C</b>	PASS	<b>N3AKM8K1213</b>

LABELING REQUIREMENTS	TIRE A	TIRE B	TIRE C
<b>BRAND NAME</b>		<b>COUNTRY</b>	<b>COUNTRY</b>
<b>SIZE DESIGNATION</b>		<b>LT225/75R16</b>	<b>LT225/75R16</b>
<b>MAX INFL. PRESS. (psi)</b>		<b>80</b>	<b>80</b>
<b>MAX LOAD RATING (lbs)</b>		<b>2680</b>	<b>2680</b>
	<b>PLY</b>	<b>MAT</b>	<b>PLY</b>
<b>CARCASS MATERIAL</b>	<b>/</b>	<b>2P</b>	<b>2P</b>
<b>BELT MATERIAL</b>	<b>/</b>	<b>6S,P,N</b>	<b>6S,P,N</b>
<b>BELT MATERIAL</b>	<b>/</b>		
<b>TUBELESS/TYPE</b>		<b>TL</b>	<b>TL</b>
<b>CONSTRUCTION</b>		<b>R</b>	<b>R</b>
<b>CERT. DOT SYMBOL (Y/N)</b>		<b>Y</b>	<b>Y</b>
<b>TRD. WEAR IND. (Y/N)</b>		<b>Y</b>	<b>Y</b>

LAB APPROVAL:

LAB MANAGER

Date: 04/25/2014

R-RAYON	N-NYLON	P-POLYESTER	S-STEEL	F-FIBERGLASS	G-NYGEN
A-ARAMID	D-DUPONT/DPI	T-TUBE TYPE	L-TUBELESS	S&E-BELTED BIAS	
A&R-RADIAL	B&I-BIAS PLY	W-ALL WEATHER			







# D.O.T.

## 139 LOW INFLATION ENDURANCE

JOB NO.	L3-664	DATE	03/23/2014
SPEC NO.	FMVSS139	TEST NO.	B4S1108B
TEST DURATION	38.00 Hours	STATION NO.	36
PO NO.	CONTRACT		

TIRE NAME		TOYO A/T OPEN COUNTRY					
TIRE SIZE	LT225/75R16	DOT NO.	N3AKM8K1213	LOAD RANGE	E		
MAX.INFLA.SINGLE	550	MAX.LOAD.SINGLE	1215	TT/TL	TL		
DUAL	550	DUAL	1120	D.O.T.	Y		
CARCASS CORD MAT.	P	BELT CORD MAT.	S,P,N	T.W.I.	Y		
NO. PLYS SIDEWALL	2	NO.PLYS TREAD	6	RIM NO.	0		
TEST RIM SIZE	16 X 6.0			CONSTR.	RAD		

	Condition		Endurance Test						Final Pressure after ET 15-25 min.	Post-Endurance Cond. 29-38°C 2 hr min.		Low Infl. Press. Test 120 KPH/snow 110 KPH 90 Minutes		Final Pressure after LPT 15-25 min.	
	29-38°C		120 KPH (75 MPH) / snow 110 KPH (68.4 MPH)							Start	End	Start	End		
	3 hr min.		4 Hours		6 Hours		24 Hours								
	Start	End	Start	End	Start	End	Start	End							
Date	3/5	3/23	3/23	3/23	3/23	3/24	3/24	3/25		3/25	3/25	3/25	3/25	3/25	
Time	0150	1400	1405	1805	1805	0005	0005	0005		0020	0220	0220	0350	0405	
Infl. Press. (kPa)	410		410							470	320	320	320	400	
Ambient Temp. (°C)	36.7	33.9	33.8	37.7	37.7	37.6	37.6	35.2		30.8	30.8	34.0	34.0	37.2	
Test Load (Kg)			1032.8		1093.5		1215.0					1215.0			
Test Speed (kph)			120		120		120					120			
Test Cycle km			480		720		2880					180			
Total km			480		1200		4080					4260			
Down Hours															
Test Cycle Hours	>3 hrs		4.00		6.00		24.00			0.25	2.00		1.50		0.25
Total Hours	>3 hrs		4.00		10.00		34.00			34.25	36.25		37.75		38.00
Technician	DS	CM	CM	NG	NG	DS	DS	TF		TF	TF	TF	TF	TF	

TEST DURATION: **38.00**      DATE COMPLETED: **3/25/14**      TOTAL KM: **4260.0**

TECHNICIAN: **T.Furden**

COMMENTS: Test Complete. No visual defects.

APPROVED BY: *Charles M Phillips*



# D.O.T.

## 139 HIGH SPEED

JOB NO. L3-664      DATE 03/05/2014  
 SPEC NO. FMVSS139      TEST NO. B4S1108C  
 TEST DURATION 5.75 hours      STATION NO. 36  
 PO NO. CONTRACT

TIRE NAME TOYO A/T OPEN COUNTRY

TIRE SIZE LT225/75R16      DOT NO. N3AKM8K1213      LOAD RANGE E

MAX.INFLA.SINGLE 550      MAX.LOAD.SINGLE 1215      TT/TL TL

DUAL 550      DUAL 1120      D.O.T. Y

CARCASS CORD MAT. P      BELT CORD MAT. S,P,N      T.W.I. Y

NO. PLYS SIDEWALL 2      NO.PLYS TREAD 6      RIM NO. 0

TEST RIM SIZE 16 X 6.0      CONSTR. RAD

	Condition 29-38°C 3 hr min.		Break-In Period 80 KPH (50 MPH)		Cooling Period to 29-38°C		High Speed Period						Final Pressure after 15-25 min.
							1st Cycle 140 KPH (87 MPH)		2nd Cycle 150 KPH (93 MPH)		3rd Cycle 160 KPH (99 MPH)		
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
Date	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5	3/5
Time (2400 hr clock)	0010	1335	1340	1540	1540	1740	1740	1810	1810	1840	1840	1910	1925
Infl. Press. (KPa)	500		500			500	500						570
Ambient Temp. (29-38°C)	36.7	32.2	30.7	30.9	30.9	28.1	28.1	30.5	30.5	30.8	30.8	31.9	30.7
Test Load (kg)			1024.2				1024.2		1024.2		1024.2		
Test Speed (kph)			80				140		150		160		
Test Cycle km			160.0				70.0		75.0		80.0		
Total km			160.0				230.0		305.0		385.0		
Test Cycle Hours	>3 *		2		2		0.5		0.5		0.5		0.25
Total Hours	>3 *		2		4		4.5		5		5.5		5.75
Technician	DS	MB	MB	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG

TEST DURATION: 5.75      DATE COMPLETED: 3/5/14      TOTAL KM: 385.0

COMMENTS: Test Complete. No visual defects.

TECHNICIAN: N.Getchey

APPROVED BY: Charles M. Phillips